Listing of Claims

1. (Withdrawn) A sealing structure for a fuel cell, in particular a solid electrolyte fuel cell, wherein the sealing structure is arranged between adjoining separator plates of a cell stack, wherein the sealing structure comprises at least two layers including at least one insulating layer and at least one sealing layer, wherein the insulating layer is arranged on a separator plate.

2. (Withdrawn) The sealing structure in accordance with claim 1, wherein the insulating layer comprises a ceramic material, in particular an electronically insulating ceramic material.

3. (Withdrawn) The sealing structure in accordance with claim 1, wherein the insulating layer comprises an electrolyte material, in particular of Y_2O_3-stabilized zirconium dioxide.

4. (Withdrawn) The sealing structure in accordance with claim 1, wherein the sealing layer comprises a pasty sealing material selected from the group consisting of a glass-ceramic solder and an alkali-silicate-containing high-temperature ceramic adhesive.

5. (Withdrawn) The sealing structure in accordance with claim 1, wherein the sealing layer comprises a material having the same thermal expansion behavior as at least one of the separator plates.

6. (Withdrawn) The sealing structure in accordance with claim 1, wherein the sealing layer comprises a metal or metal oxide additive.

7. (Withdrawn) The sealing structure in accordance with claim 1, wherein the sealing structure is arranged in a fuel cell stack of a plurality of individual fuel cells.

8. (Withdrawn) The sealing structure in accordance with claim 7, wherein the individual fuel cells comprise high-temperature fuel cells, in particular solid electrolyte fuel cells (SOFCs), each comprising electrically effective layers including an electrolyte layer, a cathode layer and an anode layer.

9. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrically effective layers are arranged on a mechanically supporting layer comprising a porous metallic substrate layer.

10. (Withdrawn) The sealing structure in accordance with claim 9, wherein the metallic substrate layer is porous, such that combustion gas can reach the anode layer.

11. (Withdrawn) The sealing structure in accordance with claim 9, wherein the porous metallic substrate layer comprises at least one of the group consisting of a nickelous felt element and a FeCrAlY foam.

12. (Withdrawn) The sealing structure in accordance with claim 8, wherein the anode layer comprises a nickel/yttrium-stabilized zirconium dioxide (Ni-YSZ) cermet material.

13. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrolyte layer is oxygen-conducting and electronically insulating.

14. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrolyte layer is gas-tight.

15. (Withdrawn) The sealing structure in accordance with claim 8, wherein the cathode layer comprises lanthanum-strontium-doped manganese (LSM).

16. (Withdrawn) The sealing structure in accordance with claim 8, wherein the cathode layer and the anode layer comprise porous layers having a graded material composition and graded porosity.

17. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrically effective layers comprise thin-film ceramic layers.

18. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrolyte layer has a thickness of approximately 20 to 50 μm.

19. (Withdrawn) The sealing structure in accordance with claim 8, wherein the cathode layer and the anode layer each have a thickness of approximately 20 to 50 μm.

20. (Withdrawn) The sealing structure in accordance with claim 1, further comprising a contact layer, which comprises a porous material that is ductile in an assembly state.

21. (Withdrawn) The sealing structure in accordance with claim 20, wherein the sealing layer is matched to at least one of the group consisting of compressibility and shrinking behavior of the contact layer.

22. (Withdrawn) The sealing structure in accordance with claim 8, wherein the electrolyte layer extends into a sealing area in such a way that at least a partial area of the electrolyte layer forms at least a portion of the insulating layer of the sealing structure.

23. (Withdrawn) The sealing structure in accordance with claim 1, wherein in an entire range of employed temperatures from ambient to an operating temperature of a fuel cell, a coefficient of expansion of the insulating layer lies between that of the separator plates and that of the sealing layer.

24. (Original) A method for producing a sealing structure for a fuel cell, in particular a solid electrolyte fuel cell, comprising the steps of applying an insulating layer of the sealing structure onto at least one predetermined sealing area of at least one separator plate of a fuel cell, and applying a sealing layer of the sealing structure to the fuel cell.

25. (Original) The method in accordance with claim 24, comprising the step of using a thermal coating process to apply the insulating layer.

26. (Original) The method in accordance with claim 25, comprising the step of using the thermal coating process to apply an electrolyte layer to the fuel cell.

27. (Original) The method in accordance with claim 25, wherein the thermal coating process comprises at least one of the group consisting of vacuum plasma spraying and atmospheric plasma spraying.

28. (Original) The method in accordance with claim 24, comprising applying the insulating layer in one process step along with applying an electrolyte layer to the fuel cell.

29. (Original) The method in accordance with claim 24, comprising applying the insulating layer while simultaneously applying an electrolyte layer to the fuel cell.

30. (Original) The method in accordance with claim 24, further comprising roughening the at least one predetermined sealing area of the at least one separator plate prior to being coated with the insulating layer.

31. (Original) The method in accordance with claim 24, comprising producing a solid electrolyte fuel cell stack.

32. (Original) The method in accordance with claim 28, comprising applying the insulating layer and the electrolyte layer using an extended displacement area of a plasma coating nozzle.

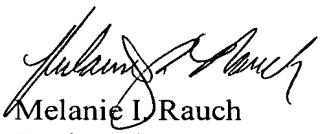
33. (Original) The method in accordance with claim 32, wherein in the course of coating the plasma coating nozzle travels over all required sealing locations and applies electrolyte material there.

34. (Original) The method in accordance with claim 24, wherein the sealing layer is applied after the application of the insulating layer.

35. (Withdrawn) A fuel cell, in particular a solid electrolyte fuel cell, comprising a sealing structure arranged between adjoining separator plates of a cell stack, wherein the sealing structure comprises at least two layers including at least one insulating layer and at least one sealing layer, wherein the insulating layer is arranged on a separator plate.

If the Examiner feels that any issues remain regarding this Response to Restriction Requirement, then Applicants' undersigned attorney would like to discuss the case with the Examiner. The undersigned can be reached at (847) 490-1400.

Respectfully submitted,



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